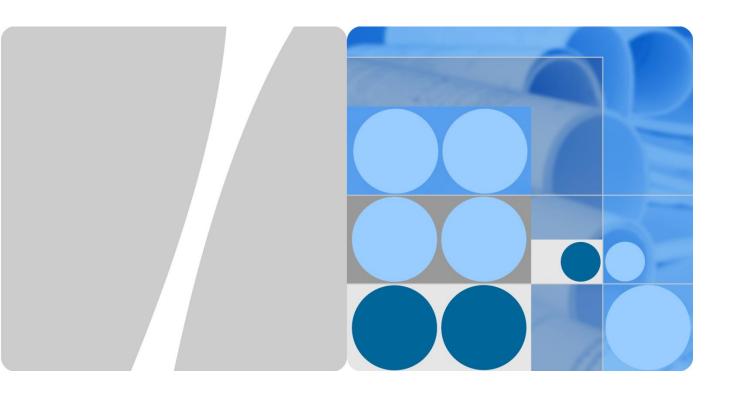
Part Number: 203393



HUAWEI WIFI AX3 (Dual-core) Product Description

Issue 03

Date 2020-07-10



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1 Overview

1.1 Introduction

Figure 1-1 Appearance



HUAWEI Wi-Fi 6 plus

HUAWEI unique Dynamic Narrow Bandwidth technology, the chipset level synergy between routers and devices, improves the signal of HUAWEI Wi-Fi 6 smartphones to new height.

3x Speed: Not only 1024 QAM but also 160Mhz Channel bandwidth, which maximizes the speed of Wi-Fi 6 and even the Wi-Fi 5 phones or tablets supporting 160Mhz channel bandwidth.

4x Capacity: OFDMA from Mobile Telecommunication field allows sharing the spectrum resources simultaneously.

2/3 Latency Cut: OFDMA and the latest spatial reuse technology BSS coloring increase your network efficiency and decrease interference.

30% Power Saved: On-demand waked-up functionality saves battery for all Wi-Fi 6 connected devices.

Dual-core 1.2GHz CPU

Computing power up to 6000 DMIPS ensures smooth network experience in multi-connection scenarios.

$HUAWEI\ HomeSec^{TM}$

Commercial grade defense technology guards your Wi-Fi from strangers' brute-force cracking.

1.2 Button/Ports

Figure 1-2 Button/Ports

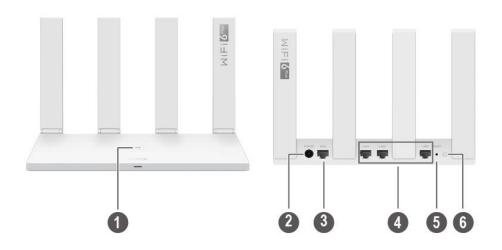


Table 1-1 Buttons and ports

No.	Button/Port	Description
1	H button	The indicator will flash when the router discovers a device that supports HUAWEI HiLink. You can press the H button to connect the device to the router's Wi-Fi.
		By pressing the H button, you can also enable WPS to connect a WPS device to the router.
		NOTE
		Devices that support HUAWEI HiLink include: HUAWEI routers, HUAWEI mobile phones (EMUI 5.1 or later), etc.
2	Power port	Connect the power adapter to this port.
3	WAN port	The port that connects to the Internet (e.g., a fiber optic modem/broadband modem/cable modem).
4	LAN ports	The ports that connect to network devices such as a computer.

5	Reset button	When the router is powered on, you can use a pointed object to press and hold the reset button for more than two seconds until the indicator turns off. The router should now be restored to factory settings.
6	Power button	Press once to power on the device, or press and hold for at least three seconds to power it off.

1.3 Indicator

Figure 1-3 Indicator

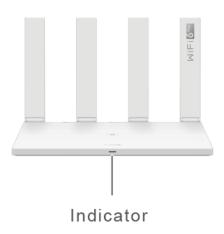


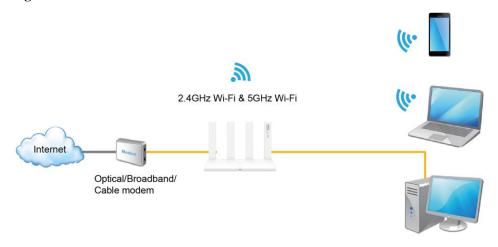
Table 1-2 Indicator and ports

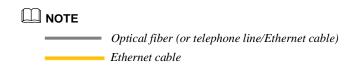
Router Status	Indicator Status	Description
Powering on	Steady red	The router is starting up.
Connecting to	Steady green	The router is connected to the Internet.
the Internet	Steady red	The router is not connected to the Internet.
Connecting through HUAWEI	Slowly flashing	The router has discovered a device that supports HUAWEI HiLink. For example, another HUAWEI router, a HUAWEI mobile phone (EMUI 5.1 or later), etc.
HiLink	Quickly flashing	The router is pairing with the device that supports HUAWEI HiLink.

	Quickly flashing and turning to steady green or red	HUAWEI HiLink pairing is successful. Steady green: the router is connected to the Internet. Steady red: the router is not connected to the Internet.
	Slowly flashing	HUAWEI HiLink pairing failed. The router rediscovered the device.
Upgrade in progress	Quickly flashing green	The router is being updated.

1.4 Network Architecture

Figure 1-4 Network architecture





2 Functions and Features

2.1 Automatically Identifying Internet Access Mode

The router can automatically identify your Internet access mode (PPPoE/DHCP). No manual operation is required.

M NOTE

PPPoE, DHCP, static IP, and bridge are the most commonly used Internet access modes and are all supported by HUAWEI WIFI AX3.

2.2 Multi-router Network Distribution

- Supports network expansion by connecting multiple HUAWEI HiLink routers using the HiLink button.
- Supports network expansion by connecting multiple HUAWEI HiLink routers using Ethernet cables.
- Supports the auto-sync of your router's Wi-Fi configurations: If the Wi-Fi name, password, or router management password is changed on your primary router, the configuration will automatically sync to the others HUAWEI HiLink routers.
- If there are multiple routers in your home, your Wi-Fi device will be automatically switched to a better-performing router.

2.3 Connecting to Your Former router (Through Wired Bridge or Wireless Repeater Mode) to Form a Network

- You can use an Ethernet cable to cascade HUAWEI WIFI AX3 to a former router and form a network. In this case, HUAWEI WIFI AX3 works as the secondary router.
- HUAWEI WIFI AX3 can also connect to your former router's Wi-Fi as a wireless repeater. When it functions as a wireless repeater, it has the same Wi-Fi name and password as your former router. There will be only one Wi-Fi network in your home.

Ш	NOTE	
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If you have two HUAWEI routers that support HUAWEI HiLink, using HUAWEI HiLink to connect the two routers will be more convenient.

2.4 Ensuring Privacy with Multiple Security Mechanisms

- HUAWEI WIFI AX3 controls Wi-Fi access and disconnects unwanted devices to prevent unauthorized access.
- It supports guest Wi-Fi. You can set up a dedicated Wi-Fi network for your guests.
 Guests have access to the guest Wi-Fi but cannot manage the router or access other
 devices on the home network. This allows you to protect the security and privacy of your
 home network.
- You can hide your Wi-Fi name to improve network security. If a Wi-Fi name is hidden, wireless devices (like PCs and mobile phones) cannot search for the Wi-Fi name. To connect a wireless device to a hidden Wi-Fi network, you must enter the correct Wi-Fi name.
- The built-in firewall can protect you from DoS/ARP attacks by scanning all data communication between the Internet and your home network.
- It supports DMZ feature that allows you to expose the DMZ host to the Internet, while
 other devices are protected by the firewall. For example, when setting up a server, you
 can set the computer connected to the external network as the DMZ host to allow it to
 provide Internet services while ensuring the security of other devices on your home
 network.

2.5 Power-saving Features

- The router supports three different power modes: High, Mid and Low to cater to your different needs at different time of the day and in different environments.
- Wi-Fi timer allows you to disable Wi-Fi during specific time periods (such as after midnight or when you're at work) in order to reduce power consumption.

2.6 Parental Control

The parental control feature allows you to set Internet access time limits and restrict access to certain websites to keep your family members (especially minors) protected.

2.7 Router Management

You can access your router's web-based management page from your computer, mobile phone or tablet. Alternatively, you can download and install HUAWEI AI Life on your mobile phone or tablet for faster configuration.

2.8 VPN Passthrough

Supports VPN pass through (requires VPN dialing from LAN device).

2.9 WPS

Supports the Wi-Fi device connect to the router network conveniently through the WPS function.

NOTE

This feature is available on Wi-Fi devices that support WPS.

2.10 Other Supported Features

- NAT and NAPT (RFC 1631, RFC 2663, RFC 2766, and RFC 3022)
- Supports access to the IPv6 network.
- DHCP server and clients
- DNS proxy

Proxy for DNS queries from its connected devices to speed up DNS responses.

• Universal Plug and Play (UPnP)

Computers in the LAN can request the router to automatically switch the port. This allows computers connected to the Internet to access the resources on any LAN computers when needed, allowing you to enjoy a more stable network while playing computer games or using apps to download files.

3 Technical Specifications

3.1 Product Specifications

3.1.1 Chipsets

- CPU: Hi5651L, 1.2GHz Dual-Core
- 2.4 G Wi-Fi chip: Hi1152 (2x2 Wi-Fi 2.4GHz)
- 5 G Wi-Fi chip: Hi1152 (2x2 Wi-Fi 5GHz)

3.1.2 RAM and Flash Memory

- RAM: 128Mbytes DDR3
- Flash memory: 128MB Nand FLASH

3.1.3 Wi-Fi

- Supports 802.11b/g/n/ax (2.4 GHz, wireless rates up to 574 Mbps).
- Supports 802.11a/n/ac/ax (5 GHz, wireless rates up to 2402 Mbps).
- Supports simultaneous dual-band (11ax 2.4 GHz 574 Mbps and 11ax 5 GHz 2402 Mbps Wi-Fi, wireless rates up to 2976 Mbps).

MOTE

The data rates shown are theoretical in nature. Actual data rates may vary depending on operating environment, wireless device, and other factors. Data rate comparisons (if any) are for the purpose of scientific explanation, and should be used for reference only.

- Adopts Huawei's unique external 2.4 GHz and 5 GHz High Gain antennas for better Wi-Fi coverage.
- Supports simultaneous Wi-Fi access on the 2.4 GHz and 5 GHz bands, and supports up to 128 devices on dual bands.
- Supports AES and TKIP encryption.
- Supports WPA/WPA2-PSK and WPA2-PSK/WPA3-SAE.
- Supports 5 GHz Wi-Fi prioritization. Your devices that support 802.11v will automatically connect to the faster Wi-Fi.
- Supported 2.4 GHz channels: 13 channels in China (1–13), 13 channels in countries and areas using the CE standards (1–13), 11 channels in countries and areas using the FCC standards (1–11).

• Supported 5 GHz channels: Channels 36–64 and 149–165 in China, channels 36–64 and 100–140 in countries and areas using the CE standards, and channels 36–64, 100-140 and 149–165 in countries and areas using the FCC standards.

M NOTE

- Channel values vary with countries.
- Currently, the router does not support the 5 GHz DFS channel in countries and areas using the FCC standards.
- Relationship between 5 GHz channels and frequency bands: Channels 36–48 correspond to band 1
 (5.15–5.25 GHz). Channels 52–64 correspond to band 2 (5.25–5.35 GHz) DFS. Channels 100–140
 corresponds to band 3 (5.47–5.725 GHz) DFS. Channels 149–165 correspond to band 4 (5.725–5.85
 GHz).

3.2 Ports

3.2.1 WAN Ethernet Port

100/1000 Mbit/s self-adaptive Ethernet port: 1

3.2.2 LAN Ethernet Port

100/1000 Mbit/s self-adaptive Ethernet ports: 3

3.3 Power Supply Specification

• Power supply: 12V DC, 1A

• Power consumption: < 12W

• Input voltage: 100 - 240V AC

• Input voltage frequency: 50 − 60 Hz

3.4 Physical Specifications

• Dimensions (Height x Width x Depth):

The product with folded external antennas: 39.7mm x 225mm x 159.2mm

The product with vertical external antennas: 165.2 mm x 225 mm x 144.4mm

The packaging of EU/UK version: 56mm x 313mm x 212mm

• Weight:

The product without packaging: about 387g

The EU version weight: about 710g The UK version weight: about 720g

Operating temperature: 0 C to 40 C (32 F to 104 F)

• Storage temperature: $-40 \,\mathrm{C}$ to $+70 \,\mathrm{C}$ ($-40 \,\mathrm{F}$ to $+158 \,\mathrm{F}$)

Operating humidity: 5% to 95% RH (non-condensing)

• Storage humidity: 5% to 95%, non-condensing

3.5 Accessories

- Power adapter x 1
- Network cable x 1
- Quick Start Guide and Safety Information x 1

3.6 Name Mapping

Product Model (Internal)	WS7100-20/ WS7100-30
Certified Model	WS7100
Product Marketing Name	HUAWEI WiFi AX3

4 Abbreviations

Table 4-1 Abbreviations

Abbreviation	Formal Name
AC	Alternating current
AES	Advanced Encryption Standard
ARP	Address Resolution Protocol
CPU	Central processing unit
СНАР	Challenge Handshake Authentication Protocol
DC	Direct current
DDNS	Dynamic Domain Name Server
DDR	Double Data Rate
DHCP	Dynamic Host Configuration Protocol
DMZ	Demilitarized Zone
DNS	Domain Name System
DoS	Denial of Service
IP	Internet Protocol
LAN	Local Area Network
L2TP	Layer 2 Tunneling Protocol
MAC	Media Access Control
NAT	Network Address Translation
NAPT	Network Address and Port Translation
PAP	Password Authentication Protocol
PPPoE	Point to Point Protocol over Ethernet
PPTP	Point to Point Tunneling Protocol

Abbreviation	Formal Name
PSK	Pre-Shared key
QoS	Quality of Service
TKIP	Temporal Key Integrity Protocol
UPnP	Universal Plug and Play
VPN	Virtual Private Network
WAN	Wide Area Network
WPA	Wireless Fidelity Protected Access